Two Fee-waiver PhD Opportunities in Biomedical Engineering London South Bank University

1 About the Opportunity

Two Chancellor's Scholarships are available at London South Bank University (LSBU), offering a **full tuition fee waiver for 4 years (48 months)**, including the write-up year. Successful candidates will join the School of Computer Science and Digital Technologies (College of Technology and Environment) and the Bioscience and Bioengineering (BISBE) Research Centre, supervised by Dr. Jiaqiu Wang, whose group has a strong track record in biomedical image analysis and computational biomechanical modelling.

The scholarship does **NOT** cover stipends or living expenses; candidates will be supported in applying for external funding. **Applications from candidates seeking China Scholarship Council (CSC) funding are warmly welcomed**, and we will support eligible candidates with their CSC application to cover living costs.

2 Available Projects

Please indicate your preferred project by quoting its **project reference** in your application (see the LSBU website for details).

(PROJECT 01) Image-based Deformation Tracking and Strain Analysis in Heart Disease Diagnosis [Ref: CTE_BBRC_Jiaqiu_001_25_26]
Atrial fibrillation (AF), the most prevalent cardiac arrhythmia, affects over 2.4% of the population in England and costs the NHS £1.4–2.5 billion annually. This project integrates Digital Volume Correlation (DVC), optical flow and AI models with 4D cardiac CT to deliver a non-invasive, high-precision tool for early diagnosis and risk stratification of AF, with translational potential in cancer imaging and bone regeneration. *Desirable*: experience in computational modelling, computer vision, image analysis and machine learning; strong mathematics/signal processing and programming skills; **experience in DIC, DVC or optical flow; background in biomedical/mechanical engineering or applied mathematics**.

(PROJECT 02) AI-assisted Multi-modal Image Analysis for Early Detection of Cardiovascular Diseases [Ref: CTE_BBRC_Jiaqiu_002_25_26]
Cardiovascular diseases remain the leading cause of death globally. This project will develop an AI framework combining demographic data, multiple imaging modalities (echocardiography, cardiac MRI, CT angiography) and structured clinical records to identify early biomarkers, predict disease progression and support clinical decision-making, validated on real-world clinical datasets with clinical experts. *Desirable*: experience in medical image analysis, machine/deep learning and data science (Python, PyTorch/TensorFlow, MATLAB); **experience in FEA/CFD applied to biomechanics**; physics-constrained algorithms and biomechanical modelling.

3 Selection Criteria

- Open to UK and international candidates (including CSC applicants) who meet the PhD entry requirements.
- At least a 2.1 honours degree (or equivalent) in engineering, computer science or a related discipline.
- Strong research, analytical, programming and academic writing skills; highly motivated and able to work independently and in a team.
- Overseas applicants: IELTS **6.5** overall, with at least **5.5** in each component. ATAS clearance may be required for non-UK nationals.

4 How to Apply

All applications, including supporting documents, must be submitted via the LSBU online application portal.

1. **Quote the project reference** (CTE_BBRC_Jiaqiu_001_25_26 or CTE_BBRC_Jiaqiu_002_25_26); applications without it cannot be processed.
2. **Upload a complete application**: a research proposal tailored to the chosen project (the primary basis for shortlisting), personal statement, CV, academic qualifications, English language evidence (if applicable) and other supporting documents.
3. **Confirm your submission** by emailing Dr. Jiaqiu Wang (jiaqiu.wang@lsbu.ac.uk) with '**[PhD Application]**' at the start of the subject line. CSC applicants should also add '**[CSC]**'.